

Amendments to the Claims

5 Please cancel claim 21, amend Claims 22, 31, 39, 40, 57, 60 and 61, and add
new claims 62 and 63 as set out below.

1. (Previously amended) A thickened oil cosmetic composition which comprises

(1) an oil, and

10 (2) uniformly dispersed in the oil as a crystallized solid, a side chain
crystalline (SCC) polymer which has a crystalline melting point T_p and
which

(a) is substantially free of fluorine atoms, carboxylic acid groups,
carboxylic acid salt groups, sulfonic acid groups, sulfonic acid salt
groups, amido groups, pyrrolidino groups and imidazole groups;
15 and

(b) is present in amount such that it thickens the oil;

E2 the composition being at a temperature

(i) which is below T_p , and

(ii) at which the composition, in the absence of the polymer, is liquid.

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2. (Previously amended) A composition according to Claim 1, which is at a
temperature T_s , where T_s is from 15 to 25 °C, and wherein the SCC polymer has a
crystalline melting point, T_p , which is 10 to 30 °C above T_s .

25 3. (Original) A composition according to Claim 2 wherein T_p is 40 to 50 °C.

4. (Original) A composition according to Claim 2 wherein T_p is 43 to 48 °C.

5. (Original) A composition according to Claim 3 wherein the SCC polymer has a heat
30 of fusion of at least 20 J/g, and an onset-of-melting point T_o such that $T_p - T_o$ is less than
10 °C.

6. (Previously amended) A thickened oil composition which comprises

- (1) an oil, and
- (2) uniformly dispersed in the oil as a crystallized solid, a side chain crystalline (SCC) polymer which

(a) is substantially free of fluorine atoms, carboxylic acid groups, carboxylic acid salt groups, sulfonic acid groups, sulfonic acid salt groups, amido groups, pyrrolidino groups and imidazole groups; and

(b) contains 10-30% by weight of repeating units containing hydroxyl groups.

7. (Previously amended) A thickened oil composition which comprises

- (1) an oil, and
- (2) uniformly dispersed in the oil as a crystallized solid, a side chain crystalline (SCC) polymer which

(a) has a crystalline melting point, T_p , of 40-50 °C.;

(b) consists essentially of

(i) 70-99% by weight of repeating units derived from at least one n-alkyl acrylate or methacrylate ester in which the n-alkyl group contains 16 to 22 carbon atoms,

(ii) 1-30% by weight of repeating units derived from at least one acrylate or methacrylate ester in which the ester group contains a hydroxyl-substituted alkyl group containing less than 12 carbon atoms, and

(iii) 0-30% by weight of repeating units derived from at least one acrylate or methacrylate ester in which the ester group contains an unsubstituted alkyl group containing less than 16 carbon atoms.

8. (Canceled)

9. (Previously amended) A thickened oil cosmetic composition which comprises

(1) an oil, and

(2) dispersed in the oil, a polymer which

(a) has a crystalline melting point, T_p , and an onset of melting temperature, T_o , such that $T_p - T_o$ is less than $T_p^{0.7}$;

(b) is soluble in the oil at temperatures above T_p ,

(c) has been dispersed in the oil by a process which comprises

(i) dissolving the polymer in the oil at a temperature above T_p , and

(ii) cooling the solution to crystallize the polymer in the oil,

(d) is a side chain crystalline (SCC) polymer which is substantially free of fluorine atoms, carboxylic acid groups, carboxylic acid salt groups, sulfonic acid groups, sulfonic acid salt groups, amido groups, pyrrolidino groups and imidazole groups; and

(e) is present in amount such that it thickens the oil;

the composition being at a temperature T_s

(i) which is below T_p , and

(ii) at which the composition, in the absence of the polymer, is liquid.

10. (Original) A composition according to Claim 9 wherein T_s is from 15 to 25 °C and T_p is 10 to 30 °C above T_s .

11. (Original) A composition according to Claim 9 wherein T_p is 40 to 50 °C.

12. (Original) A composition according to Claim 9 wherein the SCC polymer has a heat of fusion of the least 20 J/g, and an onset-of-melting point T_o such that $T_p - T_o$ is less than 10 °C.

13. (Previously amended) A thickened oil composition which comprises

(1) an oil, and

(2) uniformly dispersed in the oil as a crystallized solid, an SCC polymer which

(a) consists essentially of

(i) 70-99% by weight of repeating units derived from at least one n-alkyl acrylate or methacrylate ester in which the n-alkyl group contains 16 to 22 carbon atoms,

(ii) 1-30% by weight of repeating units derived from at least one acrylate or methacrylate ester in which the ester group contains a hydroxyl-substituted alkyl group containing less than 12 carbon atoms, and

(iii) 0-29% by weight of repeating units derived from at least one acrylate or methacrylate ester in which the ester group contains an unsubstituted alkyl group containing less than 16 carbon atoms; and

(b) is substantially free of fluorine atoms, carboxylic acid groups, carboxylic acid salt groups, sulfonic acid groups, sulfonic acid salt groups, amido groups, pyrrolidino groups and imidazole groups.

14. (Original) A composition according to Claim 13 wherein the SCC polymer contains 10-30% by weight of the repeating units derived from at least one acrylate or methacrylate ester in which the ester group contains a hydroxyl-substituted alkyl group containing less than 12 carbon atoms.

15. (Original) A thickened oil composition which is at a temperature T_s of 15 to 25 °C, and which comprises

(1) an oil, and

(2) a side chain crystalline (SCC) polymer which

(a) is uniformly dispersed in the oil as a crystallized solid

(b) has a crystalline melting point, T_p , of 43 to 48 °C, and

(c) consists essentially of

- (i) 70-99% by weight of repeating units derived from at least one n-alkyl acrylate or methacrylate ester in which the n-alkyl group contains 16 to 22 carbon atoms,
- (ii) 1-30% by weight of repeating units derived from at least one acrylate or methacrylate ester in which the ester group contains a hydroxyl-substituted alkyl group containing less than 12 carbon atoms, and
- (iii) 0-29% by weight of repeating units derived from at least one acrylate or methacrylate ester in which the ester group contains an unsubstituted alkyl group containing less than 16 carbon atoms.

16. (Original) A composition according to Claim 15 wherein the SCC polymer contains 15-25 % by weight of the repeating units derived from at least one acrylate or methacrylate ester in which the ester group contains a hydroxyl-substituted alkyl group.

17. (Original) A composition according to Claim 15 wherein the SCC polymer consists essentially of several

- (i) 70-99% by weight of the repeating units derived from at least one n-alkyl acrylate or methacrylate ester in which the n-alkyl group contains 16 to 22 carbon atoms, and
- (ii) 1-30% by weight of the repeating units derived from at least one acrylate or methacrylate ester in which the ester group contains a hydroxyethyl, hydroxypropyl, or hydroxybutyl group.

18. (Original) A composition according to Claim 17 wherein the SCC polymer contains 15-25 % by weight of the repeating units derived from at least one acrylate or methacrylate ester in which the ester group contains a hydroxyl-substituted alkyl group.

19. (Original) A composition according to Claim 15 which contains less than 1% by weight of surface active agents, based on weight of the oil.

20. (Previously amended) A method of making a thickened oil cosmetic composition comprising an oil and, dispersed in the oil, a side chain crystalline (SCC) polymer which

(a) has a crystalline melting point, T_p , and an onset of melting temperature, T_o , such that $T_p - T_o$ is less than $T_p^{0.7}$, and

5 (b) is substantially free of fluorine atoms, carboxylic acid groups, carboxylic acid salt groups, sulfonic acid groups, sulfonic acid salt groups, amido groups, pyrrolidino groups and imidazole groups;

the method comprising

(i) dissolving the SCC polymer in the oil at a temperature above T_p , and

10 (ii) cooling the solution to crystallize the polymer in the oil;

the amount of the SCC polymer being such that, after step (ii), it thickens the oil, and the temperature at the end of step (ii) being a temperature which is below T_p , and at which the composition, in the absence of the polymer, is liquid.

15 21. (Canceled)

22. (Currently amended) A composition according to Claim ~~24~~ 57 which is at a temperature T_s , where T_s is from 15 to 25 °C, and wherein the SCC polymer has a crystalline melting point, T_p , which is 10 to 30 °C above T_s .

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23. (Previously added) A composition according to Claim 22 wherein T_p is 40 to 50 °C.

24. (Previously added) A composition according to Claim 22 wherein T_p is 43 to 48 °C.

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25. (Previously added) A composition according to Claim 23 wherein the SCC polymer has a heat of fusion of least 20 J/g and an onset-of-melting point T_o such that $T_p - T_o$ is less than 10 °C.

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26. (Previously added) A composition which is a water-in-oil emulsion or an oil-in-water emulsion and which comprises

- (1) water,
- (2) an oil, and
- (3) uniformly dispersed in the oil as a crystallized solid, a side chain crystalline (SCC) polymer which is substantially free of fluorine atoms, carboxylic acid groups, carboxylic acid salt groups, sulfonic acid groups, sulfonic acid salt groups, amido groups, pyrrolidino groups and imidazole groups.

27. (Previously added) A composition according to Claim 26, which is at a temperature T_s , where T_s is from 15 to 25 °C, and wherein the SCC polymer has a crystalline melting point, T_p , which is 10 to 30 °C above T_s .

28. (Previously added) A composition according to Claim 26 wherein T_p is 40 to 50 °C.

29. (Previously added) A composition according to Claim 26 which is an oil-in-water emulsion and which contains less than 1% by weight of surface active agents, based on the weight of the oil.

30. (Previously added) A thickened oil composition according to Claim 26 wherein the SCC polymer has a heat of fusion of at least 20 J/g, and an onset-of-melting point T_o such that $T_p - T_o$ is less than 10 °C.

31. (Currently amended) A composition according to Claim 26 which contains 0.5 to 5% ~~at least 0.5%~~ by weight of the SCC polymer, based on weight of the composition.

32. (Previously amended) A thickened oil composition which comprises

- (1) an oil selected from selected from the group consisting of hydrogenated polyisobutylene; triglycerides; purcellin oil; isopropyl myristate; butyl myristate;

cetyl myristate; isopropyl palmitate; butyl palmitate; ethyl-2-hexyl palmitate; isopropyl stearate; butyl stearate; octyl hexadecyl stearate; isocetyl stearate; decyl oleate; hexyl laurate; propylene glycol dicaprylate, diisopropyl adipate; animal oils; silicone oils; oleyl alcohol; linoleyl alcohol; linolenyl alcohol; isostearyl alcohol; octyl dodecanol; esters derived from lanolic acid; and acetyl glycerides; and

(2) uniformly dispersed in the oil as a crystallized solid, a side chain crystalline (SCC) polymer which is substantially free of fluorine atoms, carboxylic acid groups, carboxylic acid salt groups, sulfonic acid groups, sulfonic acid salt groups, amido groups, pyrrolidino groups and imidazole groups.

33. (Previously added) A composition according to Claim 32, which is at a temperature T_s , where T_s is from 15 to 25 °C, and wherein the SCC polymer has a crystalline melting point, T_p , which is 10 to 30 °C above T_s .

34. (Previously added) A composition according to Claim 32 wherein T_p is 40 to 50 °C.

35. (Previously added) A composition according to Claim 32 wherein T_p is 43 to 48 °C.

36. (Previously added) A composition according to Claim 32 wherein the SCC polymer has a heat of fusion of at least 20 J/g, and an onset-of-melting point T_o such that $T_p - T_o$ is less than 10 °C.


37. (Previously added) A composition according to Claim 1 wherein each of the following conditions is fulfilled by the SCC polymer:

(1) at most 1% of the carbon atoms are substituted by one or more fluorine atoms;

(2) at most 0.2 mol% of the repeating units contain a carboxyl group, a carboxyl salt group, a sulfonic acid group, or a sulfonic acid salt group;

- (3) at most 0.5% by weight of the repeating units contain a carboxyl group, a carboxyl salt group, a sulfonic acid group, or a sulfonic acid salt group;
- (4) the polymer has an acidity of less than 0.07 meq/g;
- (5) at most 1 mol% of the repeating units are derived from acrylamide
- 5 (6) at most 0.2 mol% of the repeating units are derived from N-vinylpyrrolidone;
- (7) at most 0.2 mol% of the repeating units are derived from N-vinylimidazole.

38. (Previously added) A composition according to Claim 1 wherein each of the
10 following conditions is fulfilled by the SCC polymer:

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- (1) none of the carbon atoms are substituted by one or more fluorine atoms;
 - (2) none of the repeating units contain a carboxyl group, a carboxyl salt group, a sulfonic acid group, or a sulfonic acid salt group;
 - 15 (3) none of the repeating units contain a carboxyl group, a carboxyl salt group, a sulfonic acid group, or a sulfonic acid salt group;
 - (4) the polymer has an acidity of less than 0.07 meq/g;
 - (5) none of the repeating units are derived from acrylamide;
 - (6) none of the repeating units are derived from N-vinylpyrrolidone;
 - (7) none of the repeating units are derived from N-vinylimidazole.

20 39. (Currently amended) A composition according to Claim 24 57 wherein each of the following conditions is fulfilled by the SCC polymer:

- (1) at most 1% of the carbon atoms are substituted by one or more fluorine atoms;
- 25 (2) at most 0.2 mol% of the repeating units contain a carboxyl group, a carboxyl salt group, a sulfonic acid group, or a sulfonic acid salt group;
- (3) at most 0.5% by weight of the repeating units contain a carboxyl group, a carboxyl salt group, a sulfonic acid group, or a sulfonic acid salt group;
- (4) the polymer has an acidity of less than 0.07 meq/g;
- 30 (5) at most 1 mol% of the repeating units are derived from acrylamide
- (7) at most 0.2 mol% of the repeating units are derived from

N-vinylpyrrolidone;

(7) at most 0.2 mol% of the repeating units are derived from N-vinylimidazole.

40. (Currently amended) A composition according to Claim 24 ~~57~~ wherein each of the

5 following conditions is fulfilled by the SCC polymer:

(1) none of the carbon atoms are substituted by one or more fluorine atoms;

(2) none of the repeating units contain a carboxyl group, a carboxyl salt group, a sulfonic acid group, or a sulfonic acid salt group;

(3) none of the repeating units contain a carboxyl group, a carboxyl salt group, a sulfonic acid group, or a sulfonic acid salt group;

(4) the polymer has an acidity of less than 0.07 meq/g;

(5) none of the repeating units are derived from acrylamide;

(6) none of the repeating units are derived from N-vinylpyrrolidone;

(8) none of the repeating units are derived from N-vinylimidazole.

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41. (Previously added) A composition according to Claim 26 wherein each of the following conditions is fulfilled by the SCC polymer:

(1) at most 1% of the carbon atoms are substituted by one or more fluorine atoms;

(2) at most 0.2 mol% of the repeating units contain a carboxyl group, a carboxyl salt group, a sulfonic acid group, or a sulfonic acid salt group;

(3) at most 0.5% by weight of the repeating units contain a carboxyl group, a carboxyl salt group, a sulfonic acid group, or a sulfonic acid salt group;

(4) the polymer has an acidity of less than 0.07 meq/g;

(5) at most 1 mol% of the repeating units are derived from acrylamide

(9) at most 0.2 mol% of the repeating units are derived from N-vinylpyrrolidone;

(7) at most 0.2 mol% of the repeating units are derived from N-vinylimidazole.

42. (Previously added) A composition according to Claim 26 wherein each of the following conditions is fulfilled by the SCC polymer:

- (1) none of the carbon atoms are substituted by one or more fluorine atoms;
- (2) none of the repeating units contain a carboxyl group, a carboxyl salt group, a sulfonic acid group, or a sulfonic acid salt group;
- (3) none of the repeating units contain a carboxyl group, a carboxyl salt group, a sulfonic acid group, or a sulfonic acid salt group;
- (4) the polymer has an acidity of less than 0.07 meq/g;
- (5) none of the repeating units are derived from acrylamide;
- (6) none of the repeating units are derived from N-vinylpyrrolidone;
- (7) none of the repeating units are derived from N-vinylimidazole.

43. (Previously added) A composition according to Claim 32 wherein each of the following conditions is fulfilled by the SCC polymer:

- (1) at most 1% of the carbon atoms are substituted by one or more fluorine atoms;
- (2) at most 0.2 mol% of the repeating units contain a carboxyl group, a carboxyl salt group, a sulfonic acid group, or a sulfonic acid salt group;
- (3) at most 0.5% by weight of the repeating units contain a carboxyl group, a carboxyl salt group, a sulfonic acid group, or a sulfonic acid salt group;
- (4) the polymer has an acidity of less than 0.07 meq/g;
- (5) at most 1 mol% of the repeating units are derived from acrylamide
- (10) at most 0.2 mol% of the repeating units are derived from N-vinylpyrrolidone;
- (7) at most 0.2 mol% of the repeating units are derived from N-vinylimidazole.

44. (Previously added) A composition according to Claim 32 wherein each of the following conditions is fulfilled by the SCC polymer:


- (1) none of the carbon atoms are substituted by one or more fluorine atoms;
- (2) none of the repeating units contain a carboxyl group, a carboxyl salt group, a sulfonic acid group, or a sulfonic acid salt group;
- (3) none of the repeating units contain a carboxyl group, a carboxyl salt group, a sulfonic acid group, or a sulfonic acid salt group;

- (4) the polymer has an acidity of less than 0.07 meq/g;
- (5) none of the repeating units are derived from acrylamide;
- (6) none of the repeating units are derived from N-vinylpyrrolidone;
- (7) none of the repeating units are derived from N-vinylimidazole.

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45. (Previously added) A thickened oil composition which comprises

- (1) an oil, and
- (2) uniformly dispersed in the oil as a crystallized solid, a side chain crystalline (SCC) polymer which consists essentially of

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- (i) 70-99% by weight of repeating units derived from at least one n-alkyl acrylate or methacrylate ester in which the n-alkyl group contains 16 to 50 carbon atoms,
 - (ii) 1-30% by weight of repeating units derived from hydroxyethyl acrylate, and
 - 15 (iii) 0-29% by weight of repeating units derived from at least one acrylate or methacrylate ester in which the ester group contains an unsubstituted alkyl group containing less than 16 carbon atoms.
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46. (Previously added) A composition according to Claim 45 wherein the SCC
20 polymer contains 15-25% by weight of the repeating units derived from hydroxyethyl acrylate.

47. (Previously added) A thickened oil composition which is free of water and which
comprises

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- (1) an oil, and
 - (2) uniformly dispersed in the oil as a crystallized solid, 2 to 10% by weight, based on the weight of the oil, of a side chain crystalline (SCC) polymer which is substantially free of fluorine atoms, carboxylic acid groups, carboxylic acid salt groups, sulfonic acid groups, sulfonic acid salt groups, amido groups, pyrrolidino groups and imidazole groups.
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48. (Previously added) A composition according to Claim 47, which is at a temperature T_s , where T_s is from 15 to 25 °C, and wherein the SCC polymer has a crystalline melting point, T_p , which is 10 to 30 °C above T_s .

5 49. (Previously added) A composition according to Claim 48 wherein T_p is 40 to 50 °C.

50. (Previously added) A composition according to Claim 49 wherein T_p is 43 to 48 °C.

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51. (Previously added) A composition according to Claim 49 wherein the SCC polymer has a heat of fusion of at least 20 J/g, and an onset-of-melting point T_o such that $T_p - T_o$ is less than 10 °C.

15 52. (Previously added) A composition according to Claim 1 which is free of water and which contains 2 to 7%, by weight, based on the weight of the oil, of the SCC polymer.

20 53. (Previously added) A composition according to Claim 1 which is a water-in-oil emulsion and which contains 0.5 to 5% by weight of the SCC polymer.

54. (Previously added) A composition according to Claim 9 which is free of water and which contains 2 to 7%, by weight, based on the weight of the oil, of the SCC polymer.

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55. (Previously added) A composition according to Claim 9 which is a water-in-oil emulsion and which contains 0.5 to 5% by weight of the SCC polymer.

30 56. (Previously added) A method according to Claim 20 wherein the thickened oil composition is free of water and the amount of the SCC polymer is such that, after step

(ii), the composition contains 2 to 7%, by weight, based on the weight of the oil, of the SCC polymer.

57. (Currently amended) ~~A composition according to Claim 21 which contains A~~
5 thickened oil composition which is free of water and which comprises

(1) an oil, and
(2) uniformly dispersed in the oil as a crystallized solid 2 to 7%, by weight,
based on the weight of the oil, of the ~~SCC polymer~~ a side chain crystalline (SCC)
polymer which is substantially free of fluorine atoms, carboxylic acid groups, carboxylic
10 acid salt groups, sulfonic acid groups, sulfonic acid salt groups, amido groups,
pyrrolidino groups and imidazole groups.

58. (Previously added) A composition according to Claim 26 which contains 0.5 to
5% by weight of the SCC polymer.

59. (Previously added) A composition according to Claim 20 wherein the oil is a
vegetable oil.

60. (Currently amended) A composition according to Claim 20 wherein the oil is
20 selected from the group consisting of sunflower seed oil, sesame seed oil, rape seed oil,
sweet almond oil, α -calphylum oil, palm oil, avocado oil, jojoba oil, olive oil, castor oil,
and grain germ oils.

61 66. (Currently amended) A composition according to Claim 20 wherein the oil is
25 selected from perhydrosqualene, dimethyl polysiloxane, phenyl dimethicones, isopropyl
lanolate, isocetyl lanolate, octanoates of glycol, octanoates of glycerol, decanoates of
glycol, decanoates of glycerol, and cetyl ricinoleate.

62. (New) A composition according to Claim 1 wherein the SCC polymer is present
30 in amount about 0.1 to about 12% by weight, based on the weight of the oil.

63. (New) A method according to Claim 20 wherein the SCC polymer, at the end of step (ii), is present in amount about 0.1 to about 12% by weight, based on the weight of the oil.

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